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## About PhET

PhET provides fun, free, interactive, research-based science and mathematics simulations. We extensively test and evaluate each simulation to ensure educational effectiveness. These tests include student interviews and observation of simulation use in classrooms. The simulations are written in Java, Flash or HTML5, and can be run online or downloaded to your computer. All simulations are open source (see our source code). Multiple sponsors support the PhET project, enabling these resources to be free to all students and teachers.

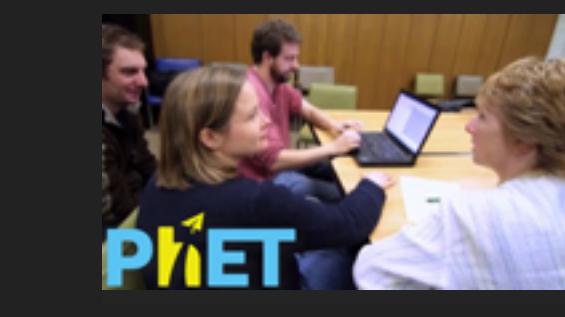
### What is PhET? A short introduction to the PhET simulations



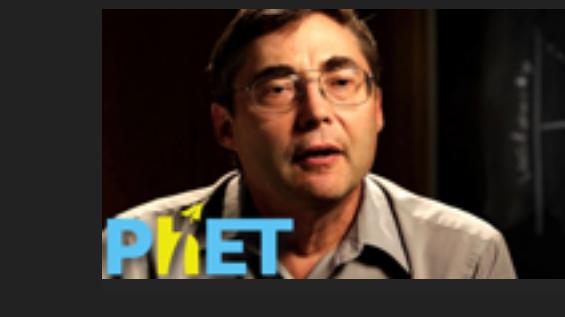
What is PhET



Next Generation PhET sims



Research &amp; Development

Carl Wieman:  
Why I Donated to  
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## Videos About PhET

- What is PhET
- Next Generation PhET sims
- Research & Development
- Carl Wieman: Why I Donated to PhET
- The Founding of PhET
- PhET Wins 2011 Tech Award

## Awards

PhET has been the recipient of numerous awards:

- SIGOL Online Learning Award, 2nd place (April 2012).
- Tech Award and Microsoft Education Award (October 2011). Read more about the Tech Award.
- NSF & Science Magazine's International Science & Engineering Visual Challenge award (2007).
- MERLOT Classics Award in Physics (2006).
- MERLOT Editor's Choice Award (2006) (PhET on MERLOT).

## More About PhET's Design

To help students engage in science and mathematics through inquiry, PhET simulations are developed using the following design principles:

- Encourage scientific inquiry
- Provide interactivity
- Make the invisible visible
- Show visual mental models
- Include multiple representations (e.g., object motion, graphs, numbers, etc.)
- Use real-world connections
- Give users implicit guidance (e.g., by limiting controls) in productive exploration
- Create a simulation that can be flexibly used in many educational situations

Several tools in the simulations provide an interactive experience:

- **Click and drag** to interact with simulation features
- **Use sliders** to increase and decrease parameters
- Choose between options with **radio buttons**
- Make measurements in your experiments with **various instruments** – rulers, stop-watches, voltmeters, and thermometers.

As users interact with these tools, they get immediate feedback about the effect of the changes they made. This allows them to investigate cause-and-effect relationships and answer scientific questions through exploration of the simulation. For more information, visit our [research](#) page.



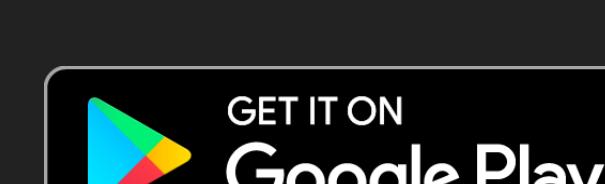
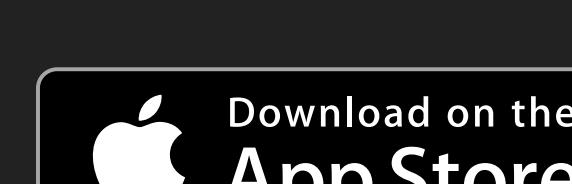
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